

# Racial Disparities among Newborns with Neonatal Abstinence Syndrome

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## Research Objective

- The extent of racial disparities in newborns with neonatal abstinence syndrome (NAS) is poorly studied.
- There is evidence of racial disparities in care quality and outcomes in other vulnerable newborn groups.
- These newborns have unique physiologic, behavioral and social needs due to the impact of withdrawal on neurologic, respiratory and gastrointestinal systems.
- The purpose of this study is to explore the extent of racial segregation and care inequality among NAS newborns.

## Study Design

- Secondary data analysis of nurse survey, patient, and hospital data from four states (California, Florida, New Jersey, Pennsylvania) in 2016.
- Used ICD-10 code Z38 to generate a sample of newborn infants.
- Used ICD10 code P96.1 to keep only NAS newborns, excluding iatrogenic NAS.
- Included hospitals had at least three NAS newborns and three maternity/newborn or NICU nurses per hospital.
- We calculated racial segregation and care inequality indices at the hospital level for NAS newborns.
- Quality was measured as the percent of nurses who rated nursing care quality as good or excellent on a 4 point scale.

## Conclusion

- NAS newborns are segregated by race in hospitals.
- Differences in the quality of care for NAS newborns across race were not observed in this sample.
- Our findings agree with previous studies that there is segregation in healthcare delivery.

Figure 1: Segregation

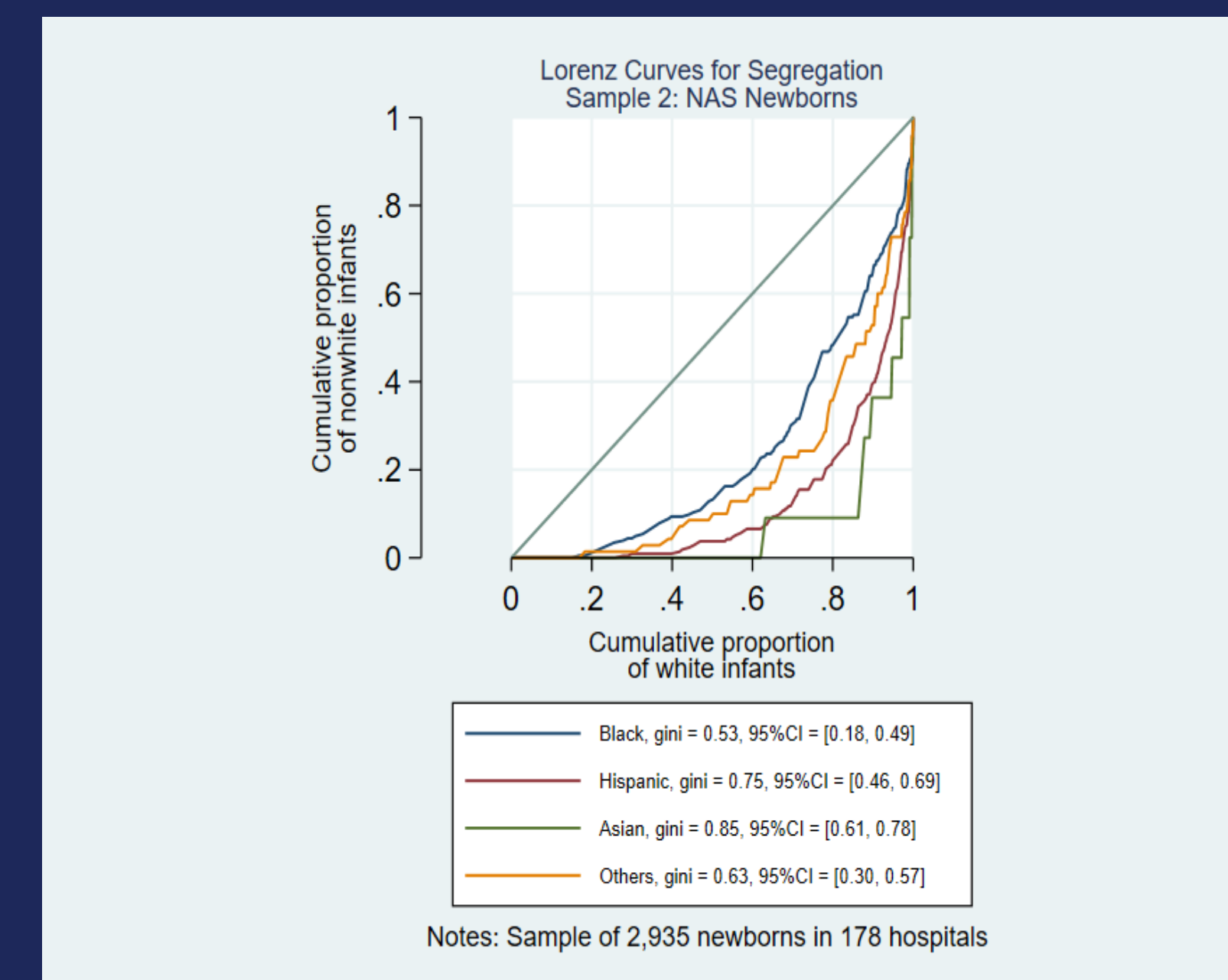
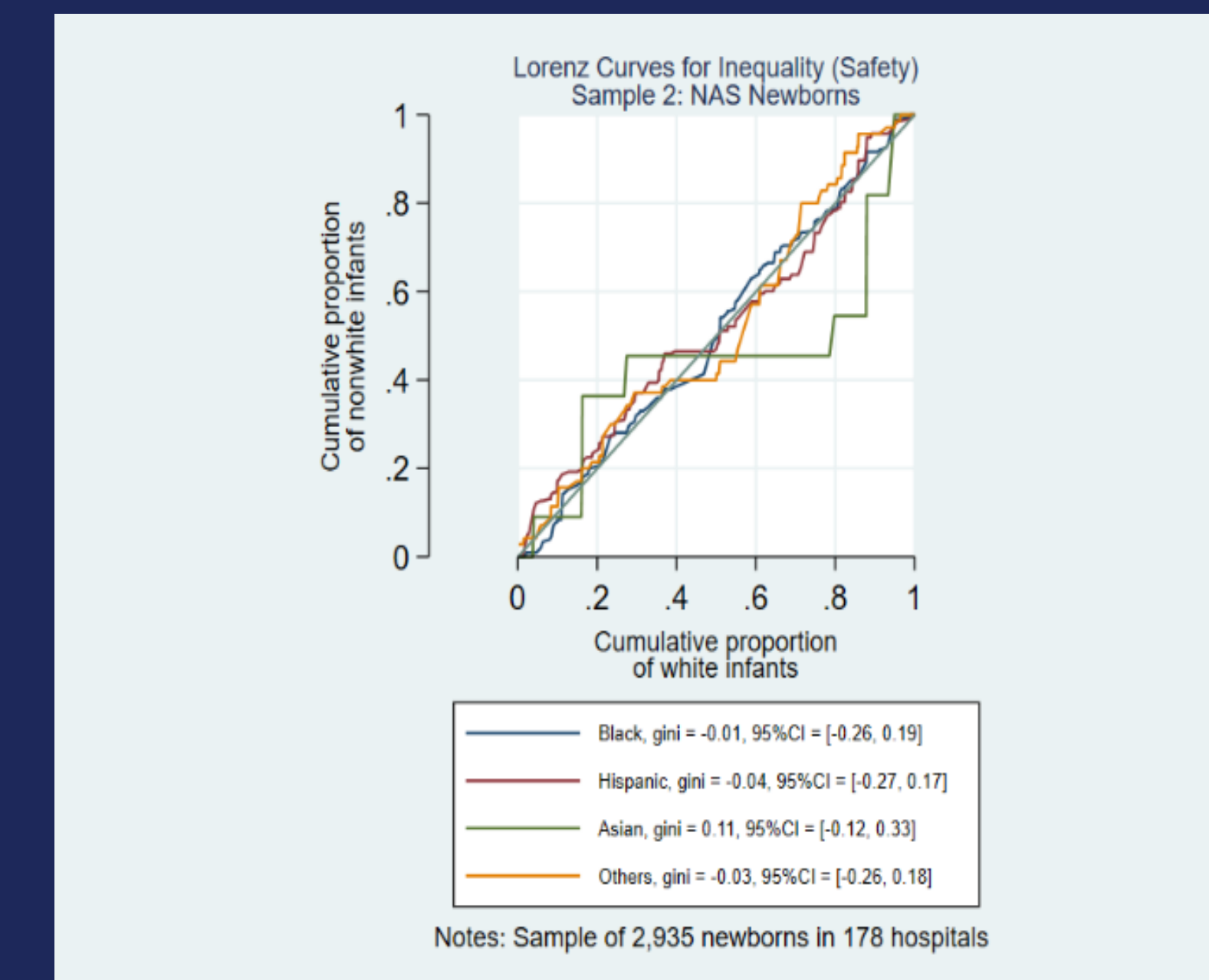


Figure 2: Inequality



Race	White	Black	Hispanic	Asian	other
NAS newborns	2438 (83.07%)	203 (6.92%)	213 (7.26%)	11 (0.37%)	70 (2.39%)

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## Results

- The sample included 178 hospitals with 2,935 NAS newborns.
- We found that the NAS newborns were segregated among the hospitals by race.
- The segregation index for Black NAS newborns was 0.53 (95% CI, 0.18 to 0.49), where no segregation equals 0.00 and complete segregation equals 1.00 (Figure 1).
- Hispanic, Asian, and Other NAS newborns experienced even more segregation than Black NAS newborns (Figure 1).
- The inequality index for Black NAS newborns was -0.01 (95% CI, -0.26 to 0.19), where perfect equality equals 0.00 and perfect inequality ranges is -1.00 or 1.00 (Figure 2).

## Implications for Policy and Practice

- Further research may reveal a relationship between racial segregation and care quality for NAS newborns.
- Care should be taken to not let apparent hospital-level equality mask unequal care at the individual-level based on race.

